



# NetLink Quick Start Guide

Server V4.141.293 or higher

1/11/06 Document v1.02

## Overview

The NetLink device is a Gateway from Ethernet to S7 MPI, in Bus connector format. The NetLink Configuration Utility application provides:

- 1) Identification of NetLink devices on the local network.
- 2) Temporary IP address download.
- 3) Ethernet parameter (incl. permanent IP address) and Bus parameter download.
- 4) Firmware download.

This guide will focus on identifying and configuring NetLink Modules for use with KepserverEx and the Siemens TCP/IP Ethernet Driver.

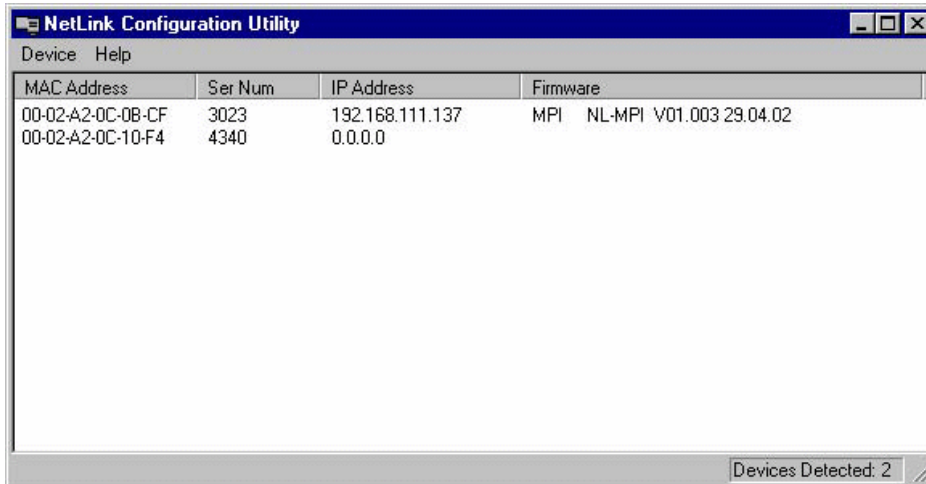
## Configure the NetLink

This quick start guide assumes that you have an "out-of-the-box" NetLink device with factory default settings. It also assumes the NetLink is loaded with the latest firmware.

***To upgrade firmware, see Firmware in the NetLink Configuration Utility Help.***

In the following sections, we will scan the network for NetLink devices, set a temporary IP address, and then download parameter settings to the device, including a permanent IP address.

- 1) On the NetLink Configuration Utility Main Menu select Device|Refresh List. This will cause a scan of the local network for NetLink devices.



The main window will contain a list of all NetLink devices detected. The view contains 4 columns:

- MAC Address (hardware address)
- Serial Number (factory assigned)
- IP address (configurable)
- Firmware string containing device type, firmware revision, and firmware date. (configurable)

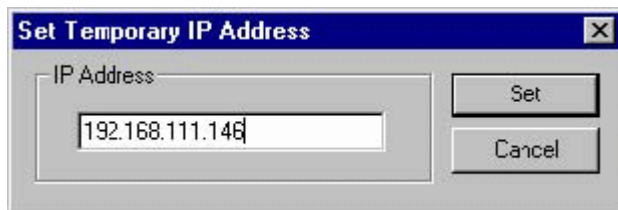
**See Refresh List in the NetLink Configuration Utility Help for more details.**

- 2) In the NetLink Utility, select the device that you will be configuring and then select Device|Set Temp. IP... to set the temporary IP address. Out-of-the-box, NetLink will have 0.0.0.0 for an IP address. Before parameter settings, including a permanent IP address, can be downloaded to the NetLink, a temporary IP address must be assigned.

**A 3 minute window is available for setting a temporary IP address after power on. After that, the NetLink will respond with error code -1.**

- 3) In the dialog that opens, enter a temporary IP address and click Set. Use the same IP address that will be permanently saved later for the temporary IP address.

**If the NetLink has already been configured with an IP address on a different subnet, please make sure that your PC is multi-homed to both subnets. This can be done by adding an IP address and subnet mask for the old subnet to the TCP/IP properties of your network connection in Windows.**



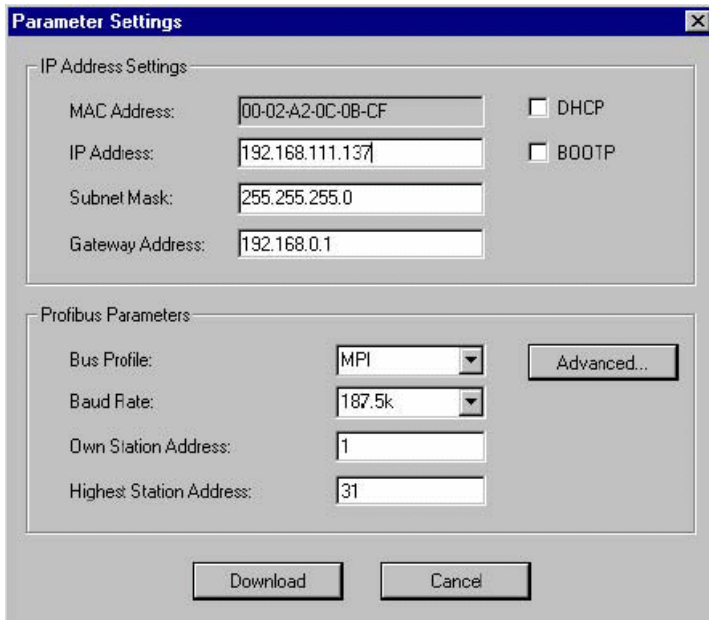
**See Set Temporary IP address in the NetLink Configuration Utility Help for more details.**

- 4) Next, with the device highlighted, select Device|Parameter Settings... from the main menu.

**NetLink parameters define how communications will take place from the PC to the NetLink and from the NetLink to the PLC.**

- 5) In the dialog that opens, enter a permanent IP address, Subnet mask, Gateway if applicable. Leave the field empty if it's not applicable.
- 6) Next, verify the Bus Profile, Baud Rate, Station address of the adapter, and highest station address of the network to ensure you will be able to communicate to the PLC.

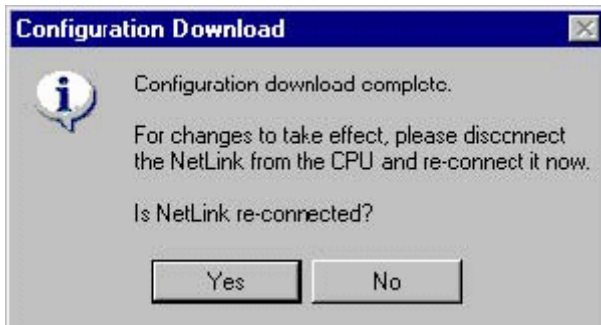
- 7) Click the Download button when ready. The download process will begin and configure the adapter.



The 'Parameter Settings' dialog box is divided into two sections. The 'IP Address Settings' section contains four text input fields: 'MAC Address' (00-02-A2-0C-0B-CF), 'IP Address' (192.168.111.137), 'Subnet Mask' (255.255.255.0), and 'Gateway Address' (192.168.0.1). To the right of these fields are two checkboxes: 'DHCP' and 'BOOTP', both of which are unchecked. The 'Profibus Parameters' section contains four fields: 'Bus Profile' (a dropdown menu set to 'MPI'), 'Baud Rate' (a dropdown menu set to '187.5k'), 'Own Station Address' (a text input field set to '1'), and 'Highest Station Address' (a text input field set to '31'). An 'Advanced...' button is located to the right of the 'Bus Profile' dropdown. At the bottom of the dialog are 'Download' and 'Cancel' buttons.

- 8) When the download process completes, a dialog will appear instructing you to disconnect and reconnect the NetLink from the PLC.

**Note: If the Configuration Database that the Configuration Utility uses is not present in the Utilities folder then you will get and Update Failed with Error Code 2.**



The 'Configuration Download' dialog box features an information icon (a lowercase 'i' in a circle) on the left. The text reads: 'Configuration download complete. For changes to take effect, please disconnect the NetLink from the CPU and re-connect it now. Is NetLink re-connected?'. At the bottom, there are two buttons: 'Yes' and 'No'.

- 9) Click the Yes button when the NetLink is reconnected. The NetLink Configuration Utility will pause to allow the NetLink to complete its power-up sequence.



You have successfully downloaded parameter settings to the NetLink.

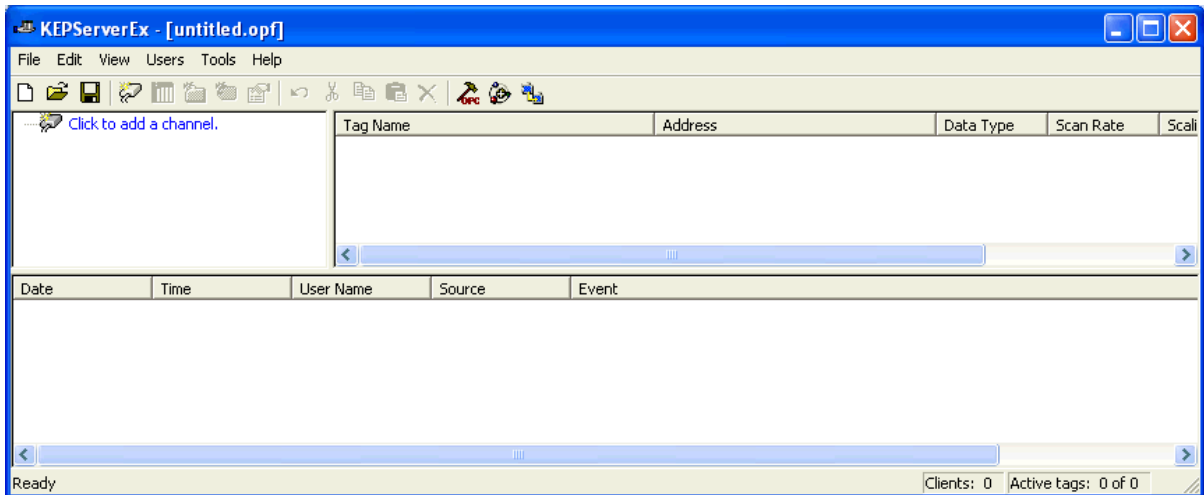
## Configuring KepserverEx

Now it is time to set up a KepserverEx project to communicate to the PLC via the NetLink. This example shows the setup for the S7-314 PLC that the NetLink was connected to locally. Your parameters may be different.

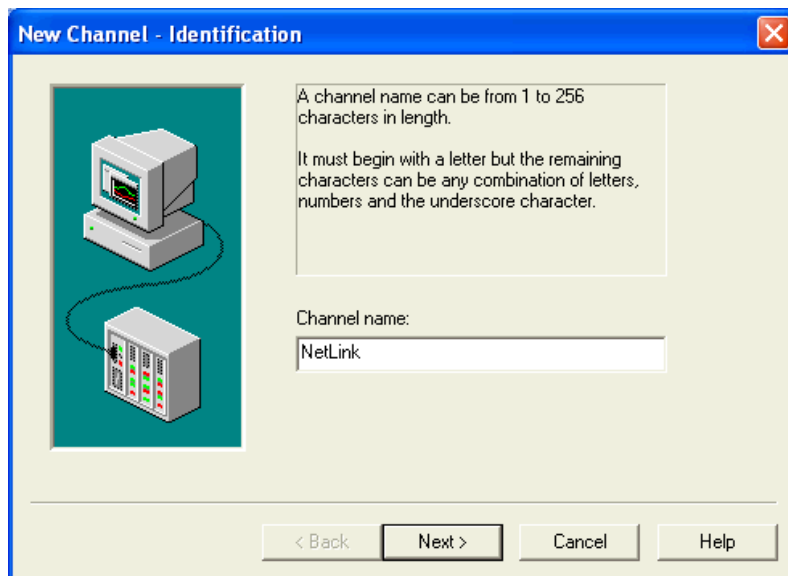
- 1) Start by opening KepserverEx and creating a new project.

### Configure a Channel

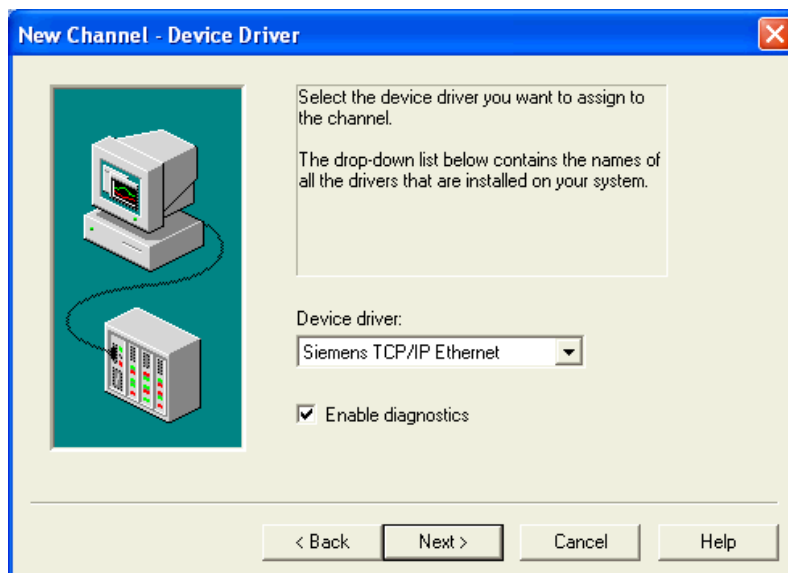
- 2) Click on the Click to add a channel prompt to start the New Channel Wizard.



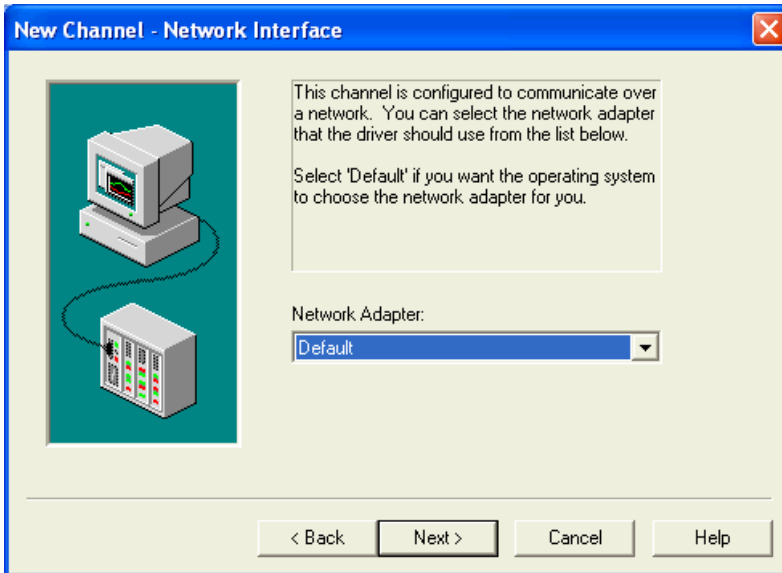
3) Assign a name to the Channel, we have chosen NetLink, and click Next to continue.



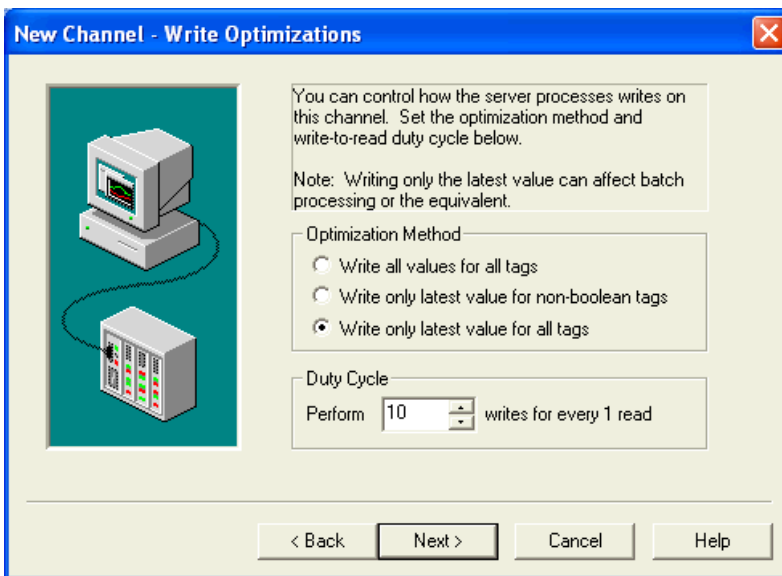
4) From the drop down list select the Siemens Ethernet driver and click Next to continue.



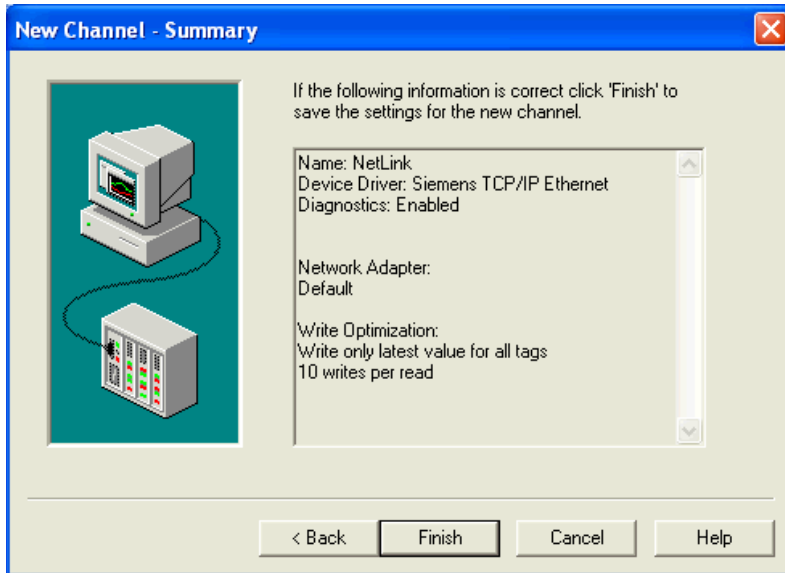
- 5) The Network Interface page is displayed next. If you have more than one Network card in your PC, select the adapter that the NetLink is on, or accept the default and click Next to continue.



- 6) Click Next to continue in the Write Optimizations page. If you would like more information on these settings they can be found in the server help file.

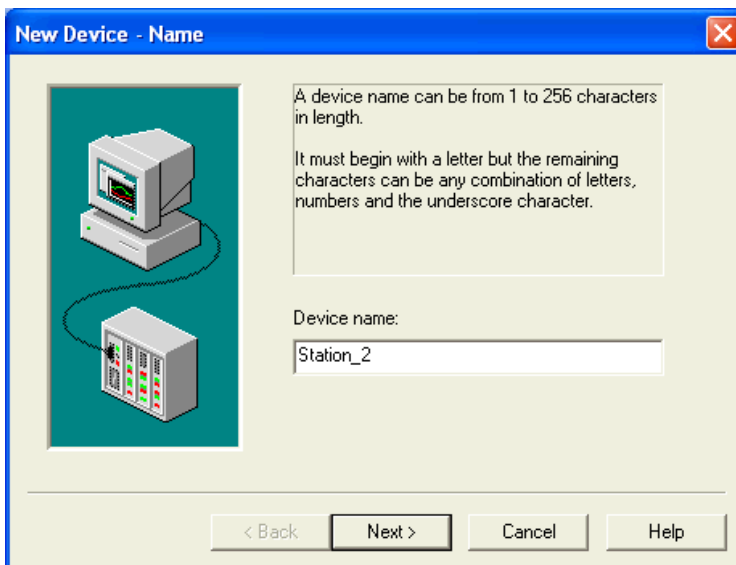


- 7) Verify the configuration settings in the summary page and click Next to finish. You can go back and change most of the channel settings later.

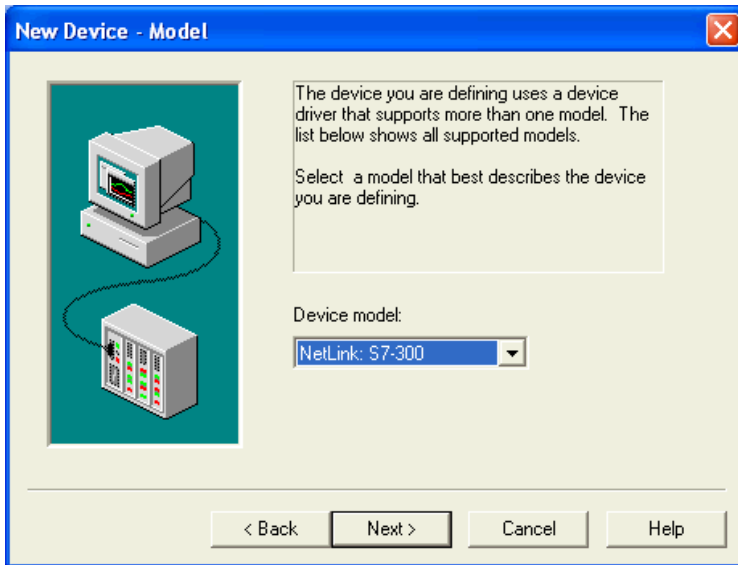


## Configure a Device

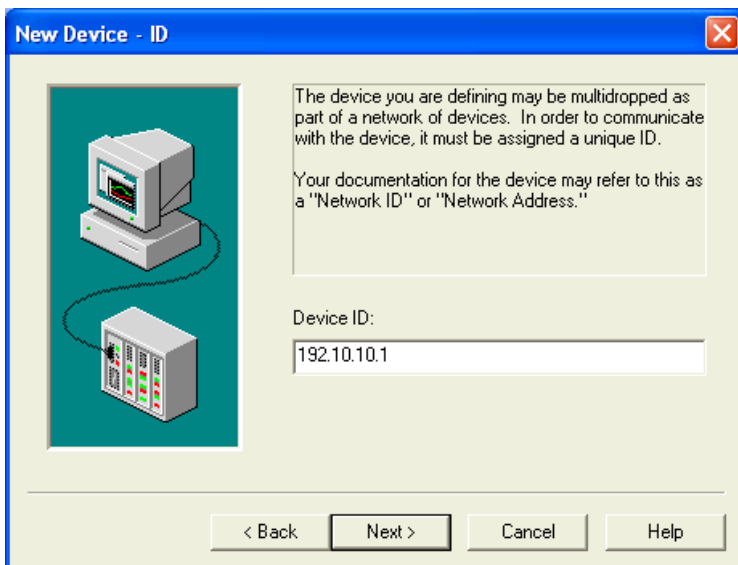
- 8) With the channel expanded click on the Click to add device prompt to start the device wizard.
- 9) Enter a name for the device configuration you are creating. We chose "Station\_2". Click Next to continue.



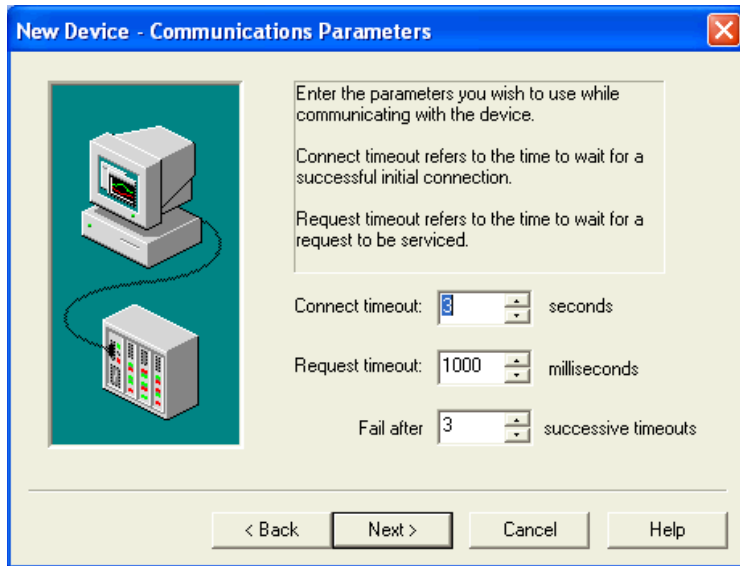
- 10) In the Device Model drop down, select the NetLink Model for your PLC. In this example, we have chosen the S7-300 as that is what we are connecting to. Click Next to continue.



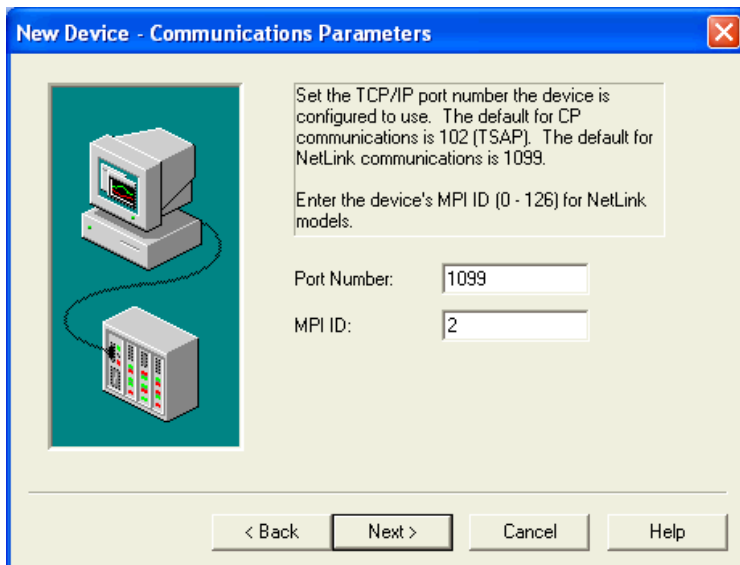
- 11) Enter the IP address of the NetLink module connected to the PLC and then click Next to continue.



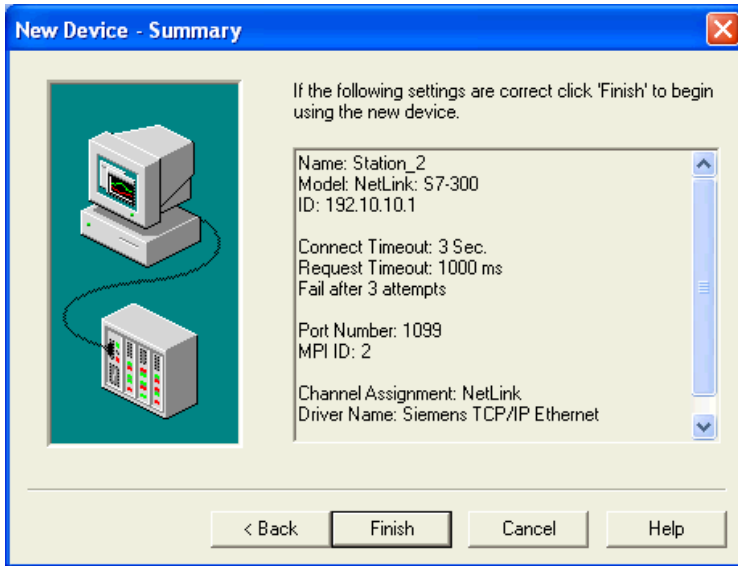
- 12) In the Communications Parameters page set the Time out and retry parameters for this device. Typically the defaults will be good for most normal networks. See the server help file for details on how these settings work. Click Next to continue.



- 13) In the Communications Parameters page enter the Port Number for the NetLink which should not have changed from the default of 1099 and enter the MPI address of your PLC. Click Next to continue.

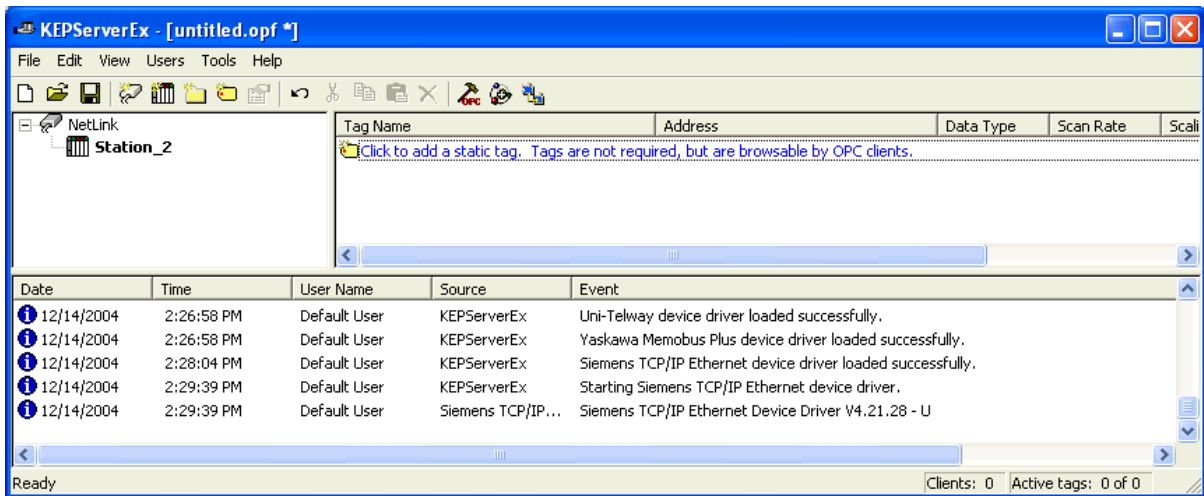


14) Verify the device parameters in the Summary page and Click Next to finish.



## Create a Tag

15) Click on the “Click to add a static tag” prompt to add a tag to the project



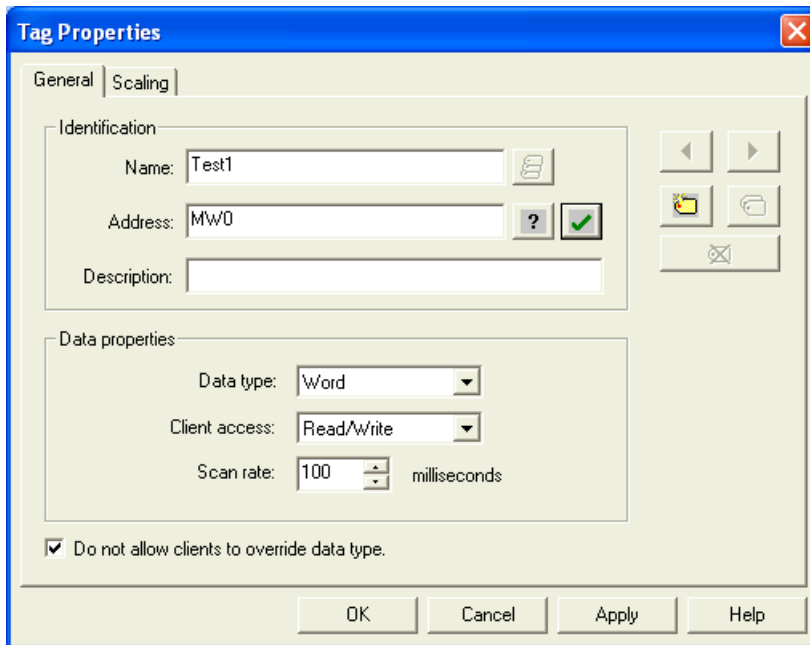
16) In the Tag Properties Wizard enter a tag name and a valid address for the PLC. We have chosen address MW0.

17) Click on the Validate Address  button to validate the address you have entered. You can view a complete list of the valid PLC address syntax in the driver help file.

***When testing communication it is wise to test with internal data addresses as they do not usually have to be configured in the device.***

18) You will see that the data type will have changed after validation. The driver will provide a default data type for each address. You can manually set the data type as well.

19) Click OK to apply the tag settings and close the dialog box.



20) The tag is now displayed. You can connect to the server with a client application and see data in the PLC at the address of that tag.

